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Two new species of *Megistophylla* Burmeister, 1855 (Coleoptera: Scarabaeidae: Melolonthinae) from China

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Abstract: Two new species of the genus *Megistophylla* Burmeister, 1855 are described from China: *M. wangae* **sp. nov.** from Hubei (Baokang County) and *M. chinensis* **sp. nov.** from Yunnan (Gejiu County). The habitus and male genitalia of the two new species are illustrated.

Keywords: Lamellicornia, Oriental region, Rhizotrogini, scarab, taxonomy

中国多鳃金龟属两新种（鞘翅目：金龟科：鳃金龟亚科）

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摘要：本文描述了中国多鳃金龟属 *Megistophylla* 两新种：产自湖北保康的王氏多鳃金龟 *Megistophylla wangae* **sp. nov.**和产自云南个旧的中华多鳃金龟 *Megistophylla chinensis* **sp. nov.**。

关键词：鳃角类，东洋界，根鳃金龟族，金龟，分类

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Introduction

Megistophylla Burmeister, 1855 is a genus of the tribe Rhizotrogini Burmeister, 1855 (Coleoptera: Scarabaeidae) distributed in south China, Indochina, and Greater Sunda (Wang *et al*. 2024). Species of *Megistophylla* are medium-sized, having a transverse carina situated at the base of frons, antennal clubs compsed of five, six, seven, or eight antennomeres that are often significantly enlarged or strongly curved in male. Li *et al*. (2016) described two species (*M. formosana* Wang & Li, 2016 and *M. xitoui* Li & Wang, 2016) from Taiwan, China with short antennal clubs which are distinctly different from other congeners and some resembling species of the genus *Miridiba* Reitter, 1902. Another species, *M. microlamellata* Keith, 2020, with shorter antennal club, was recently described from central Vietnam (Keith 2020). In the present paper, two additional new species with short antennal clubs are described from China: *Megistophylla wangae* **sp. nov.** from Hubei Province and *M. chinensis* **sp. nov.** from Yunnan Province. So far, the number of this genus increased to 20.

Material and methods

Body length of specimens was measured from the anterior margin of the clypeus to the inner apex of the elytron, and body width was measured at the middle of the elytra. Photographs of specimens were taken using Canon RF100mm f/2.8L Macro IS USM Lens on a Canon R7 camera. All photos were modified with software Adobe Photoshop CC 2018.

All type specimens are housed in Invertebrate Collection of Mianyang Normal University, Mianyang, China (**MYNU**, Hao XU).

Taxonomy

Megistophylla wangae sp. nov. 王氏多鳃金龟

https://zoobank.org/20B69F35-F7BD-4E6E-9637-24D06FAFD1E8

Figs 1A–C; 2A–F

Type material. Holotype: ♂ (MYNU): **CHINA, Hubei:** Xiangyang, Baokang County, Longping Town, Julongshan Mountain, 30.V.2022, Xuan-Qi Wang and Mao Ye leg.

Etymology. The new species is named after Ms. Xuan-Qi Wang [王炫琦] (Xiangyang, China) who collected the holotype.

Description. Male (Figs 1; 2). Length: 20.7 mm; width: 9.3 mm. Body elongate ovoid, convex in profile.

Color: Body color blackish-brown, venter and legs slightly shiny.

Head: Antennal with 10 antennomeres, antennal club composed of 7 antennomeres, antennomere 4 slightly shorter than antennomeres 5–10, the longest club 1.5 times longer than antennomeres 1–3 combined; antennomere 3 significantly enlarged (Fig. 2A). Punctures on clypeus and frons smaller than those on elytra. Clypeus shorter than frons, anterior margin bilobed; surface with dense punctures. Fronto-clypeal suture complete and clearly defined. Canthus with several setae. Frons moderately raised. Frontal carina strongly raised.

Thorax: Pronotum widely trapezoid, surface densely punctate; with a short, smooth middle longitudinal line on posterior half at first glance. Anterior margin complete, without basal marginal line; sides reflexed moderately in posterior 2/5, margins smooth with setae. Anterior angles obtuse, posterior angles obtuse and rounded.

Scutellum: Surface glabrous, with several roughly symmetrically distributed large punctures.

Elytra: Surface of elytra deeply and densely punctate, densely confluent at sides of suture; sutural costa gradually broadening apically, densely punctate at margins or transversally rugoso-punctate over costa; costa becoming flat at apex.

Pygidium: Apex broadly rounded. Surface with deep, dense punctate (Fig. 2F).

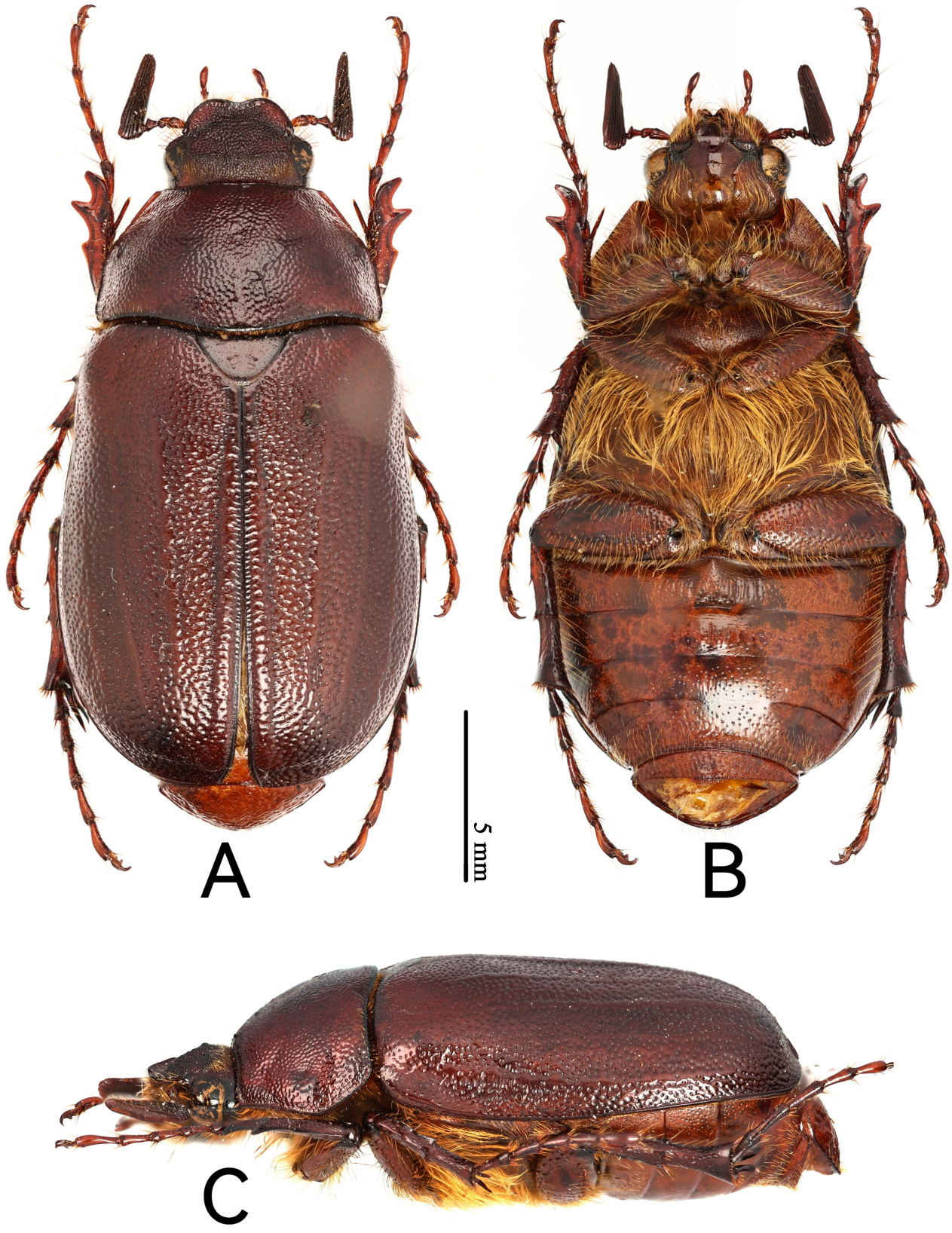

FIGURE 1. Habitus of *Megistophylla wangae* **sp. nov.**, ♂: **A** dorsal view **B** ventral view **C** lateral view from left.

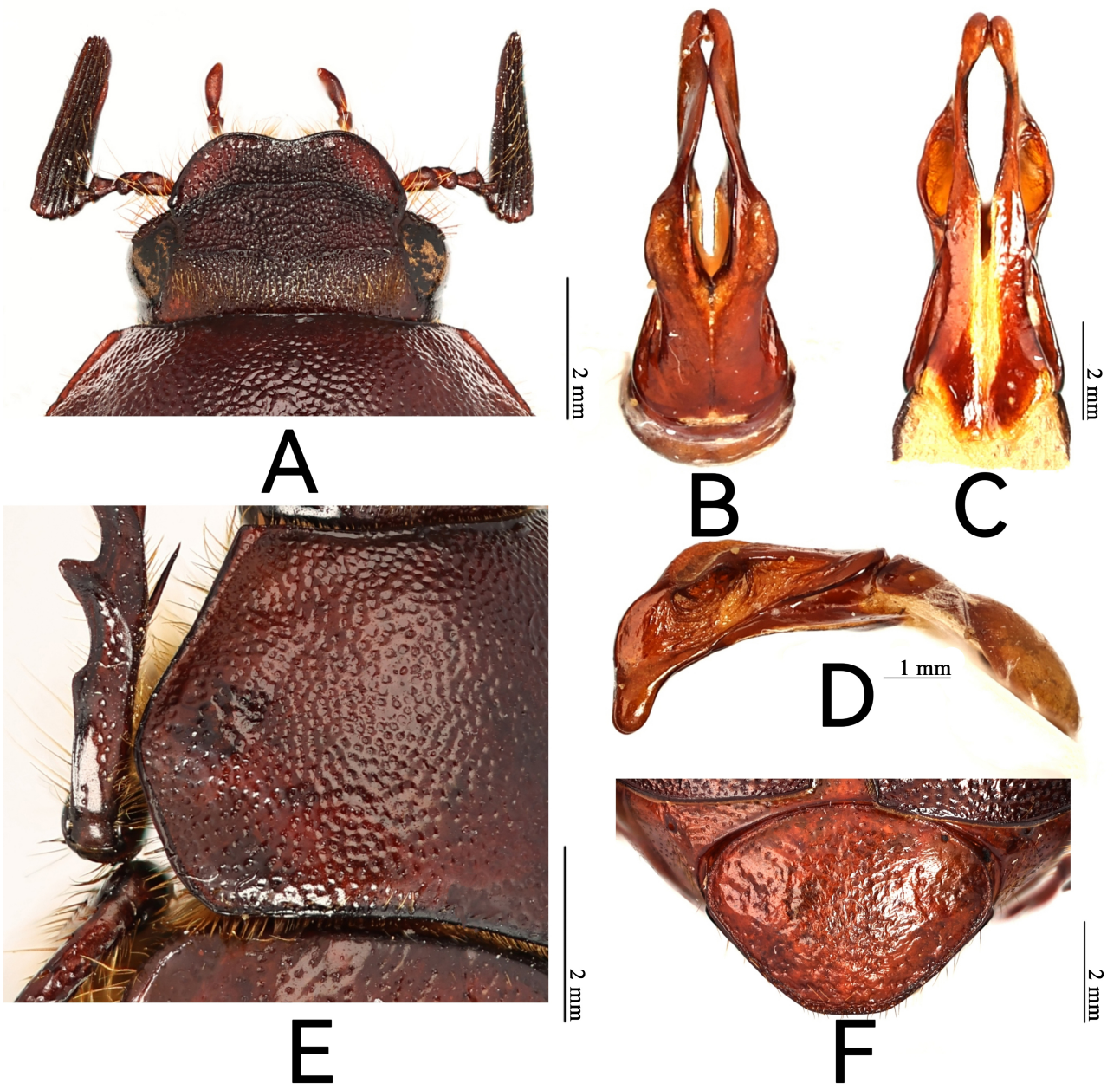

FIGURE 2. *Megistophylla wangae* **sp. nov.**, ♂: **A** head **B–D** genitalia **E** pronotum **F** pygidium. (**A, B** dorsal views; **C** ventral view; **D, E** lateral views; **F** frontal view)

Venter: Ventral thorax densely covered with rather long, yellow setae. Entire surface of metepisternum and metepimeron covered with dense, long, yellow setae. Sternites 1, 2, 5 and 6 with surface densely punctate and covering dense and short setae; middle of abdominal sternites 3 and 4 densely punctate; posterior half of abdominal sternite 5 with long soft setae; sternite 6 with dense punctures and soft setae (Fig. 1B).

Legs: Protibia tridentate, middle tooth and terminal tooth acute, basal tooth obtuse, inner spur long. Apex of mesotibia and metatibia widened; inner apex with two short spurs subequal in length; inner surface with a few of long setae. Outer surface of mesotibia and metatibia with a complete transverse carina. All claws with a tooth vertically medially.

Genitals as Fig. 2B–D.

Female. Unknown.

Differential diagnosis. *Megistophylla wangae* **sp. nov.** is similar to *M. formosana* Wang & Li, 2016, *M. xitoui* Li & Wang, 2016, and *M. chinensis* **sp. nov.** in the shape of male genitalia and the length of antennal club. In lateral view, the upper margin of the paramere is gradually narrowed apically. in *M. xitoui,* whereas the upper margin is distinctly convex in other species; in dorsal view, the lateral margins are strongly constricted at mid-length in *M. wangae* **sp. nov.** and *M. chinensis* **sp. nov.,** but weakly constricted in *M. formosana.* Additionally, *M. wangae* **sp. nov.** differs from the above mentioned three species by its antennal club composed of 7 antennomeres (6 antennomeres in *M. formosana*, *M. xitoui* and *M. chinensis* **sp. nov.**).

Distribution. China (Hubei).

Remarks. *Megistophylla microlamellata* Keith, 2020 resembles to *M. wangae* **sp. nov.**, *M. formosana* Wang & Li, 2016, *M. xitoui* Li & Wang, 2016 and *M. chinensis* **sp. nov.** However, it is different from them by the shape of male genitalia and its shorter antennal club composed of 5 antennomeres.

Megistophylla chinensis sp. nov. 中华多鳃金龟

https://zoobank.org/99A40D9D-26AA-4BBE-AAFD-98E7C7DC84CC

Figs 3A–C; 4A–F

Type material. Holotype: ♂ (MYNU): **CHINA, Yunnan:** Honghe Prefecture, Gejiu County, Daweishan Mountain, 31.V.2022, local leg.

Etymology. This new species is named after its country of origin.

Description. Male (Figs 3; 4). Length: 19.8 mm; width: 8.5 mm. Body elongate ovoid, convex in profile.

Color: Body color dark blackish-brown, venter and legs slightly light and shiny.

Head: Antennal with 10 antennomeres, antennal club composed of 6 antennomeres, antennomere 5 slightly shorter than antennomeres 6–10, the longest club 1.2 times longer than antennomeres 1–4 combined; antennomere 4 significantly enlarged (Fig. 4A). Punctures on clypeus and frons smaller and denser than those on elytra. Clypeus shorter than frons, anterior margin bilobed and moderately reflexed; surface with dense punctures. Fronto-clypeal suture complete and clearly defined. Canthus with several slim setae. Frontal carina strongly raised.

Pronotum: Pronotum wide trapezoid, surface densely punctate; with a short,smooth middle longitudinal line on posterior half at first glance. Anterior margin complete, without basal marginal line; sides reflexed moderately in posterior 2/5, margins smooth with setae. Anterior angles obtuse, posterior angles obtuse and rounded.

Scutellum: Surface glabrous, with sparsely punctures.

Elytra: Surface of elytra deeply and densely punctate, densely confluent at sides of suture; sutural costa gradually broadening apically, densely punctate at margins or transversally rugoso-punctate over costa; costa becoming flat at apex.

Pygidium: Apex broadly rounded. Surface with comparatively sparse punctate. (Fig. 4F).

Venter: Ventral thorax densely covered with rather long, yellow, setae. Entire surface of metepisternum and metepimeron densely covered with long, yellow, setae. Sternites 1, 2, 5 and 6 with surface densely punctate and densely covered short setae; middle of abdominal sternites 3 and 4 sparsely punctate; posterior half of abdominal sternite 5 with long soft setae; sternite 6 with dense punctures and soft setae (Fig. 3B).

Legs: Protibia tridentate, middle tooth and terminal tooth acute, basal tooth obtuse, inner spur long. Apex of mesotibia and metatibia widened; inner apex with two short spurs; inner surface with a few of long setae. Outer surface of mesotibia and metatibia with a complete transverse carina. All claws with a vertical tooth ventromedially.

Genitals as Fig. 4B–D.

Female. Unknown.

Differential diagnosis. See diagnosis of *M. wangae* **sp. nov.**

Distribution. China (Yunnan).

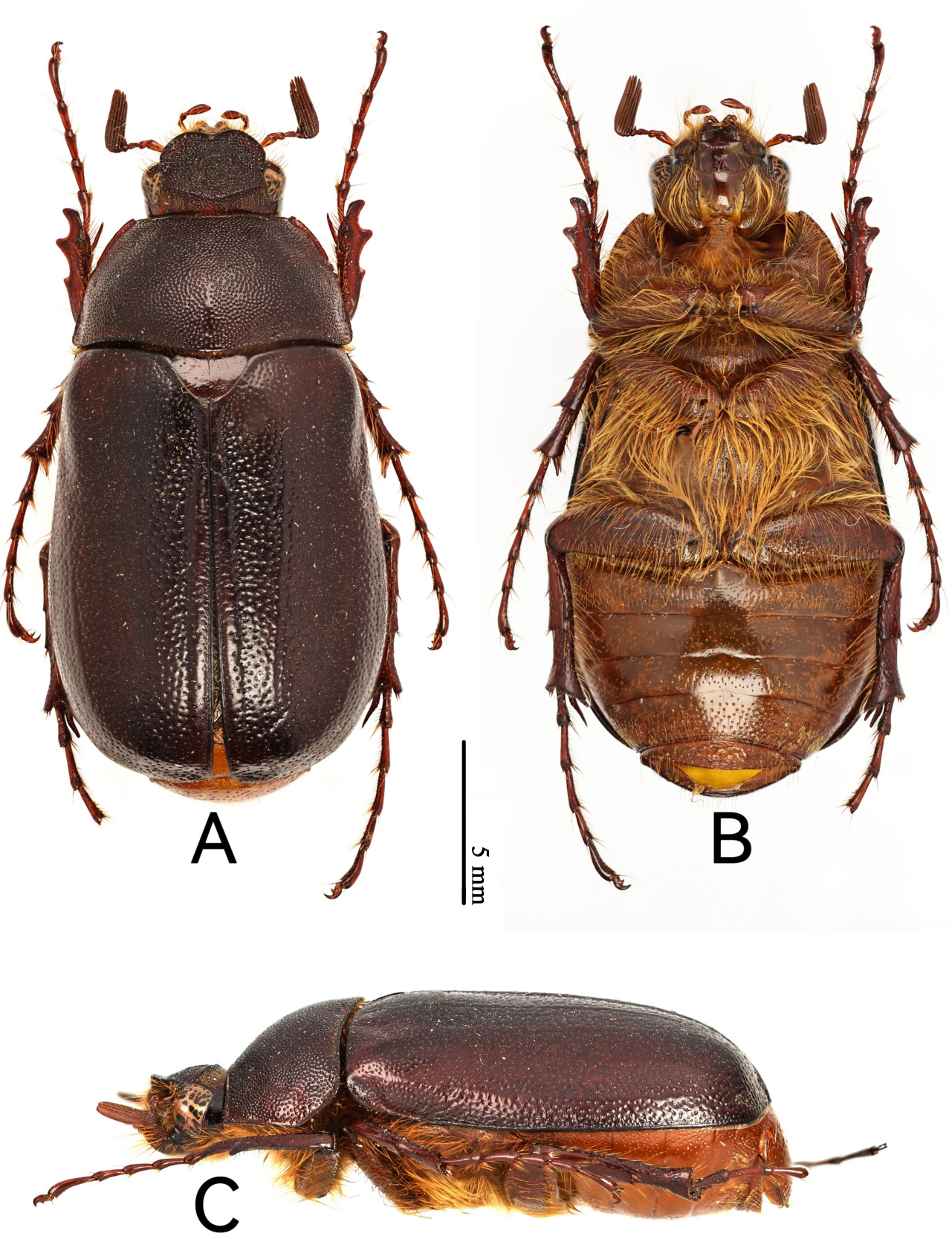

FIGURE 3. Habitus of *Megistophylla chinensis* **sp. nov.**, ♂: **A** dorsal view **B** ventral view **C** lateral view from left.

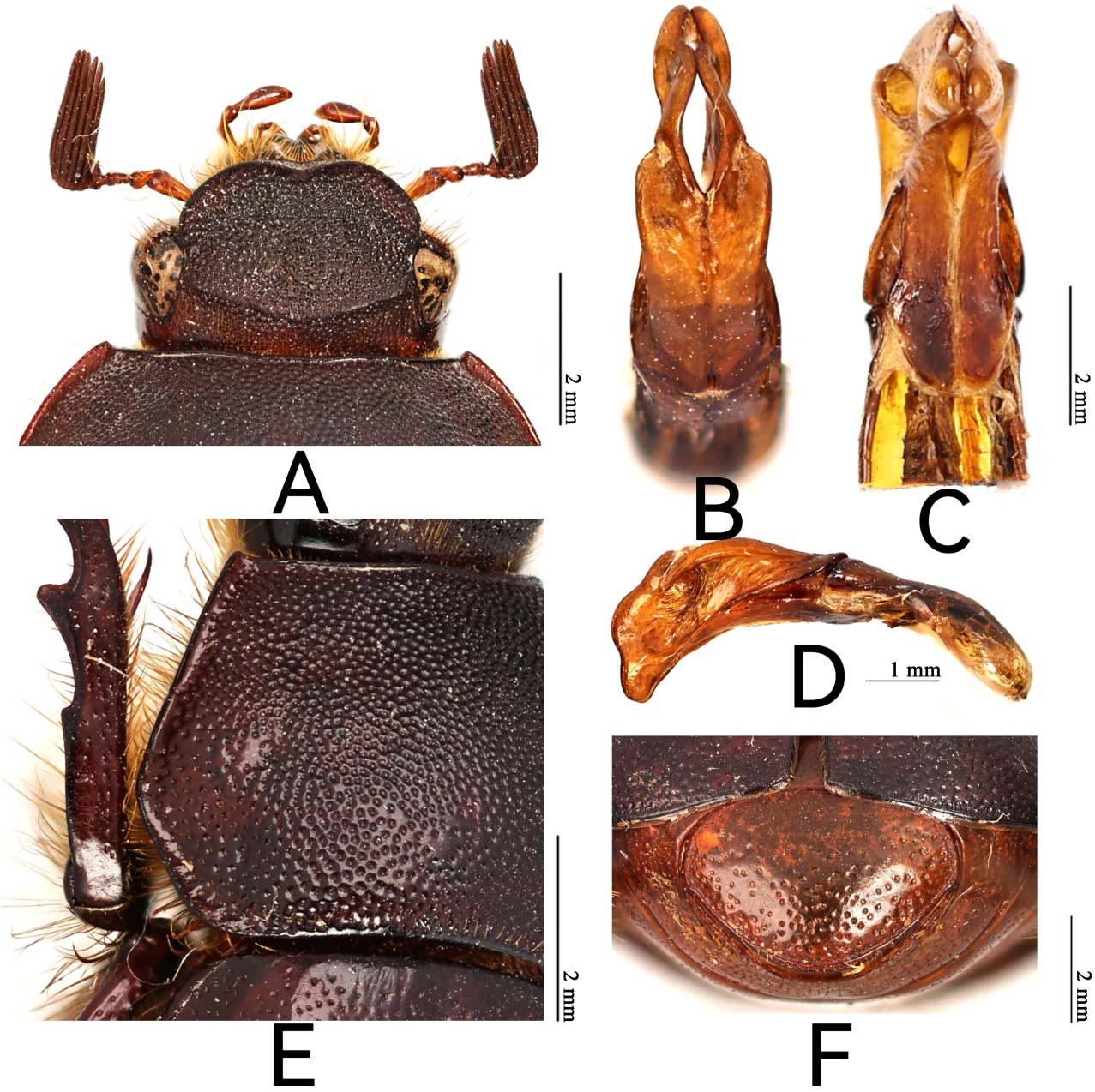

FIGURE 4. *Megistophylla chinensis* **sp. nov.**, ♂: **A** head **B–D** genitalia **E** pronotum **F** pygidium. (**A, B** dorsal views; **C** ventral view; **D, E** lateral views; **F** frontal view)

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Additional information

Author contributions: Conceptualization: X-T Zhang & Y-L Li. Project administration: Y-L Li. Resources: Y-L Li. Supervision: Y-L Li. Visualization: Y-L Li. Writing–original draft: X-T Zhang. Writing–review and editing: X-T Zhang & Y-L Li.

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